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CLOSED-CIRCUIT TELEVISION IN SECOND SEMESTER COLLEGE GERMAN.

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IN 1964, THE UNIVERSITY OF CALIFORNIA, SANTA BARBARA, CONDUCTED AN EXPERIMENT REPLACING 50 PERCENT OF STUDENT-TEACHER CONTACT WITH PRE-RECORDED TELEVISION LECTURES FOR TWO OF SIX SECTIONS OF GERMAN. ELEMENTS NORMALLY PRESENTED BY LECTURES WERE ISOLATED FROM CURRENT COURSE MATERIALS FOR TELEVISION PRESENTATION. IT WAS BELIEVED THAT THE QUALITY OF INSTRUCTION INCREASED CONSIDERABLY, AND THE SOMEWHAT NEGATIVE STUDENT REACTION OBTAINED BY A QUESTIONNAIRE GIVEN BEFORE THE COURSE SHIFTED TO A FAVORABLE ONE AS THE STUDENTS REALIZED THEY WERE LEARNING MORE THAN IN A REGULAR COURSE. THE TELEVISION GROUPS COVERED MORE MATERIAL, AND OUTPERFORMED THE REGULAR GROUPS IN LISTENING AND READING COMPREHENSION AND IN TRANSLATION FROM ENGLISH TO GERMAN. THIS DOCUMENT IS A REPRINT FROM "THE MODERN LANGUAGE JOURNAL," VOLUME 49, NUMBER 2, FEBRUARY 1965, PAGES 86-91. (RW)

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Closed-Circuit Television in Second Semester College German

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INTRODUCTION

DURING the spring semester of 1964, the University of California at Santa Barbara conducted two pilot studies involving the use of instructional television during 50% of the class time in beginning French and German classes. In this article, we shall present some of the experimental[1] details and results of the television course in second-semester German.[2]

PURPOSE

The experiment was designed to investigate the possible advantages of presenting some fundamental foreign language materials to large groups of college students by means of television. The experimenter analyzed current course materials,[3] isolated all of the elements ordinarily presented by lectures, and selected those course materials and exercises which would profit from visual presentation. It was our belief that closed-circuit television would make it considerably easier for students to absorb both the abstract material given in lectures and the visual aids used to illustrate these abstract materials. Increasingly concerned with the maintenance of high quality language programs in the face of the rapid growth of our student population, we expected to realize the possibility of reducing experienced staff time in elementary language teaching and yet maintain or even raise the quality of instruction.

PROCEDURE

Two out of six sections of German II were designated as experimental sections. The other classes were used for comparison. Throughout the semester our plans allowed for a reconversion of the television class into a regular class in case of necessity.

Since we were faced with considerable technical difficulties in the scheduling of classes and classrooms, no attempt was made to select students at random for the two experimental groups. Since we did not announce the experiment in advance, we hoped that regular class enrollment would provide us with experimental groups of normal composition. In order to have some objective measure of their composition, we administered the Modern Language Aptitude Test[4] to all German II classes.

Both television sections were scheduled for two television lectures per week (Mondays and Thursdays), two drill sessions under the supervision of Associates or Teaching Assistants (Tuesdays and Thursdays), and one unsupervised session in the language laboratory[5] (Wednesdays). Thus 50% of student teacher contact hours were replaced by television contact, *i.e.*, 40% of total class time; however, an assistant was present at the televised program.

The television lectures were prerecorded[6] and thus permitted the television instructor to visit not only the drill sessions but the television lectures as well.

In the television lectures, we used one instructor for more than 90% of the straight lecture

[1] The term "experiment" is used in the sense of "exploratory test or trial." Although statistical methods were used to evaluate some of our results, no serious attempt was made to bring under control the numerous variables affecting language learning. We were primarily concerned with the technical problems of substituting one instructional medium for another and learning from our experience. Very little published research was available to guide us toward our specific objectives.

[2] The second-semester course was chosen in order to contrast this pilot study with a study on a first-semester French television course. We also hoped to deal with a simpler learning situation since most of the students had already acquired language study habits during their first semester.

[3] Winfred Philip Lehmann, et al., *Review and Progress in German*, New York: Holt, 1959.

[4] John B. Carroll and Stanley M. Sapon, *Modern Language Aptitude Test*, New York: Psychological Corporation, 1958. The short form was administered.

[5] In actual practice, two half-hour sessions were required in the "listen and record" facility. The material supplemented our class instruction.

[6] The technical details of the production and our technical experience will be discussed in a separate paper.

presentation,[7] one assistant, and, occasionally, visiting lecturers. In the television program we covered the following parts of our course material: (1) aural comprehension exercises; (2) phonetics; (3) history of the German language; (4) grammatical exercises; (5) grammar review; (6) enrichment. In the grammatical exercises we discussed homework assignments and student papers; in the review we treated selected problem areas. Enrichment was supplied by short excerpts from German language films which were intended to supplement some of our daily course material.

In the drill sessions, our students were required to do choral drills, complete unfinished lesson materials, rehearse, discuss, and review all course material, and take examinations.

In our project, we adhered closely to our present educational policy in elementary language teaching.[8] We did not plan to establish the merits of the various schools of teaching methodology or of various "approaches," although we did emphasize aural comprehension as the first step in language learning, pronunciation and intonation, basic sentences and their complete mastery before introducing variations and combinations, and as a last step, structural analysis. The approach in grammar discussion was mostly inductive and aimed at providing students with the ultimate confirmation of their own generalizations. All these elements were present in television as well as in non-television classes, although eventually it was found that our television group emphasized aural comprehension, formal grammar,[9] and phonetics.

All students of German II courses were given two major examinations and one departmental final examination.[10] In addition, the television classes received printed answer sheets which were used at frequent intervals during the television lectures and television exercises. The answer sheets were collected at periodic intervals.

Evaluation of the Experiment

The experiment was to be considered a success if the experimental group performed as well as or better than the comparison groups,[11] allowing for chance variations. The MLAT scores were consulted to establish a reasonable basis for comparison. Student opinion, as well as that of television and language staff, was solicited in weekly conferences in order to improve the project as it progressed. The students were given three questionnaires at different stages of the experiment in order to investigate their attitude and attitude changes. We were well aware of the unreliability of student evaluation of instruction; we did not plan to administer similar questionnaires to non-television classes. Nevertheless, we hoped to benefit from student evaluation as long as our standards of quality were maintained or the quality of instruction improved. We were particularly interested in evaluating any possible effects resulting from the novelty of this new pedagogical technique.

Results

Student Attitude.—The students were asked to express their attitude toward television instruction by marking one of eight categories: (1) very favorable; (2) quite favorable; (3) on the positive side; (4) neutral; (5) somewhat negative; (6) quite negative; (7) very negative;

[7] The involvement of only one instructor in such a large portion of the instructional-television presentation was regrettable but necessary, since it was difficult to obtain released time for additional instructors. One of the advantages of the television medium is the possibility of bringing the students into frequent contact with different teachers and with native speakers.

[8] At the time of the experiment, this policy was expressed in terms of the textbook and the final examinations. The final examinations consisted predominantly of English-to-German translations.

[9] The discussion of formal grammar is of particular significance in German. Since German schools teach a prescriptive grammar, the impact of rules on spoken and written German is more noticeable than in English.

[10] The mid-semester examinations of the standard classes and of the television group agreed in form and emphasis. The final examination was the same for all groups. Each examination consisted of English-to-German translations (50%), and a comprehension test (20%) in which an unfamiliar anecdote of moderate difficulty was read twice at normal speed. The students were asked to choose the most appropriate answer in German from four answers to each of ten German questions about the story. The remaining 30% of the examination was divided between fill-in problems and German-to-English translations.

[11] The term "comparison group" was used to distinguish this type of group from the experimental group. We did not call it a "control group" because our variables were controlled only to an extent compatible with language teaching.

(8) very antagonistic.[12] At the first class meeting, when the students were still unaware of the fact that their course was going to be offered partly on television, their attitude was between "neutral" and "somewhat negative" (rank 4.4), and rumors were ranked similarly (rank 4.3). After the first five weeks of instruction, student attitude had improved to "quite favorable" and "on the positive side" (rank 2.6), and just before the final examination the students were between "on the positive side" and "neutral" (rank 3.4).

The vast majority of students (76%) felt they were learning more in the television course than in a conventional course,[13] and an even larger percentage (89%) realized that television instruction put more responsibility on their shoulders.

As expected, the greatest single disadvantage which our students listed aside from the factor of "general impersonality" of the new medium was the impossibility of interrupting the instructor to ask questions.[14] On the other hand, students realized that television would enable various senior instructors in the department to reach a larger number of beginning languages students. In their comments, many students stressed that beginning language training should remain a major concern for the most qualified teachers in the department.[15] The last questionnaire, particularly, revealed a certain degree of fatigue. Criticism pointed to the lack of active student participation during the lectures (34%); to the type, amount, and presentation of the subject matter (17%); and to certain characteristics of the television medium such as its impersonality, the resulting overrelaxation of the students, and its severe demands on concentration (48%).

Discussion of Student Attitude.—Probably the final-opinion survey was affected most decisively by two major factors: first, the novelty effect began to wear off and, secondly, the students began to find themselves engaged in routine preparations for the final examinations. Moreover, the television class realized that it had covered unintentionally more material than parallel non-television classes and that it was going to be given extra examinations to test its knowledge in the additional areas of study.

Examination Results.—In the departmental final examination, the television class at 12 o'clock (Section 5) outperformed the non-television class at 11 o'clock (Section 4) in at least two areas or skills: aural comprehension, and the translation of English sentences into German.[16]

The non-television class was taught by a very competent and experienced instructor in *all* of its class meetings. It was of similar size (the difference in the enrollment was one student), and showed no difference in the aptitude test scores.[17] The remaining parts of the final consisted of a short fill-in exercise (no significant difference between Sections 4 and 5), and a translation exercise from German to English in which no comparison was attempted.

It turned out that three sections (1, 2, 6) scored significantly higher on the aptitude test than either the non-television Section 4 or the television Section 5.[18] Section 6, a late afternoon class, materialized with only nine students. The students of this class received television instruction but their achievements were disregarded in the experiment because of their considerably higher aptitude scores, because of a major change at midterm in drill-session procedure, and because of their performance which was consistently low from the very beginning of the course.[19]

If the results of the aptitude test are dis-

[12] The original questionnaire was developed by the television office.

[13] We assume that the answers to this question were based on general expectation or on the exchange of experiences with the non-television group.

[14] Many students and instructors considered this an advantage.

[15] This may prove difficult in view of increasing enrollment. We may also have to consider the tendency of some senior university professors to consider beginning language instruction as being a non-academic subject matter and of secondary importance in comparison with courses in literature.

[16] This part of the examination usually shows the greatest variability of scores. In the final test of this course the same effect was observed.

[17] The difference in means would occur approximately fifty times out of one-hundred due to sampling errors alone.

[18] If Sections 4 and 5 are compared with Sections 1, 2, 3, and 6, the null-hypothesis can be rejected at the 1% level of confidence.

[19] Section 6 will be discussed later with reference to aptitude, attitude, and performance.

regarded[20] and the performance of Section 5 compared with that of Sections 1, 2, 3, and 4, the difference of mean scores in the translation part of the final examination would be insignificant.[21] Only three sections were required to complete the fill-in part of the final, and here again the difference in means was insignificant. On the comprehension test, however, the television group clearly outperformed all non-television sections.[22]

Discussion of Examination Results.—We realize that the statistical results of our pilot study are only of limited value. Yet, when we consider all the factors involved, a cautious evaluation of the data indicates that the television group performed as well as the other sections. The final examination results of the television class should have been affected negatively by several factors: the class covered additional material without direct bearing on the material of the departmental final examination; the class was subjected to a number of technical changes during the semester; active participation in the course was reduced. The factors that helped the television students to obtain high scores on the final examination were rather obvious. The class also covered additional grammar material which did have a bearing on the material of the final. However, such additions to the course content were made possible solely by the medium of closed-circuit television, by the gains resulting from the necessary condensation of the course, and the improved means of course presentation.

Discussion

The importance of student and teacher attitude to the outcome of any kind of course is self-evident. Any new method or teaching medium will almost automatically produce scepticism on the part of persons who are traditionally minded, and elicit the support of the curious who are drawn into the experiment. Negative attitudes of teachers and students may most certainly cause havoc in any type of class, while their interest and enthusiasm can infuse value into almost any teaching method.

We had been warned repeatedly that, at the college level, student attitude toward instructional television tended to be negative. This was borne out in our experiment where our students expressed considerable reservations at the outset and seemed to believe that television lectures could not possibly equal the quality of "live" instruction. Their conception of instructional television was based to a great extent on their exposure to commercial television and instructional films which vary considerably in quality. The few students who had previously taken television courses at the university level were generally much more favorably disposed. The major change to a favorable attitude which we observed during the fifth week of instruction seemed to be based on the realization on the part of the students that they were learning more than they had expected. They also appeared to become more interested in the experiment as such. As tension increased before the final examination, the attitude of the class "dropped off" again but remained "on the positive side." Examination scores throughout the entire course were distributed quite normally as were course grades.

We had expected to counteract the disappearance of the "novelty effect" with the practical experience which we gathered in the experiment. This was possible only to a limited extent, however, since we did not want to change procedures or introduce innovations unless absolutely mandatory.

In the beginning of the course, we considered the support of our students as the most important immediate objective. We avoided any attempt to popularize our lectures, but concentrated our efforts on the fullest use of the numerous advantages and unique capacities of the television medium in the exclusive service of learning.

One of the most obvious advantages was the extensive use of visual material in the course. Pictures, maps, charts, and models could be used frequently in subject areas ranging from the discussion of "narratives" to language his-

[20] We do not recommend this since the test has proved to be a very reliable instrument.

[21] Mean of mistakes (non-television): 57; mean of mistakes (television): 55. This difference could be expected 74% of the time due to sampling errors alone. The difference in means would still be insignificant, even if Section 6 were included.

[22] Null-hypothesis can be rejected at the 1% level of confidence.

tory and geography, syntax, and phonetics. Many visual demonstrations were more concise and convincing than the corresponding oral or written descriptions. Picture sequences were used in the place of English texts to describe basic situations and simple events which served as models for German composition. Voices of different native speakers were used in aural comprehension exercises and in the demonstration of the sounds of the German language. The awareness of sound contrasts such as the critical differences in German vowel lengths, or the predominance of diphthongal glides in English was sharpened considerably with relatively simple means. Graphic intonation patterns were used to help guide our students in the acquisition of correct German speech habits. Visual and audio material was used repeatedly at frequent intervals to increase the students' familiarity with it and to promote the learning process. Most of the above advantages are not ordinarily present in the conventional classroom.

From the outset we were aware of the need to involve the students as actively as possible. Since the students did not have the opportunity to ask questions during the television presentation, we had to rely heavily on the careful programming of our instruction with relatively slow "external pacing." Our subject matter was divided into a large number of relatively small steps, and we attempted to give our students a quiz or check at the completion of each step. The students recorded their answers to the questions of the television instructor on mimeographed sheets. Then the students were given on television the correct answers for most quizzes with a short discussion or explanation to clarify any remaining questions. Occasionally, the answer sheets were checked by the instructor or his assistants in order to study the progress of the class and in order to adjust the pacing. We did not attempt to control "cheating" except by asking the student attendant to make an occasional survey. As could be expected, this arrangement was not very effective.

To resolve the problem of cheating, we decided to develop an experimental device which would be simple, cheap, and require no electricity. The device records the answers of our students and will, we hope, insure a more effective active student participation. We also hope that the device will have to be checked only occasionally to keep the system in operation. The shortcomings of such mechanical solutions need not be pointed out; such solutions, however, seem necessary in order to relieve the teacher of his "policing" function wherever or whenever the students are unwilling to work alone or are unable to evaluate their own progress in a critical manner.

Occasional television classes, as well as laboratory or library assignments, may well serve to strengthen the student's sense of responsibility and eventually increase rather than reduce his involvement with the subject matter of his courses. We feel that the financial savings resulting from the use of mechanical aids in mechanical tasks should be employed to a large extent to improve further the quality of instruction and to promote the contact of small groups of students with their instructors. Ideally, a lecture class of hundreds of students should be preceded and followed by drill and discussion sections of ten to fifteen students. Television may be one way and possibly the only way to transform this ideal into a reality if we consider the limitations of our physical facilities and the increasing number of students.

Summary

During the spring semester of 1964, we conducted an experiment in which we taught a conventional German course partly by closed-circuit television. Television lectures and exercises were pre-recorded and they alternated with drill sessions throughout the semester. The drill sessions were conducted by assistants who also monitored the television hours. Our television group covered additional material beyond the regular course material. The attitude of our students varied from slightly "negative" before the beginning of the course, to "quite favorable" before the five-weeks examination, and to slightly "positive" just before the final examination. In the written finals, the television group performed as well as all non-television sections of the same course except in aural and reading comprehension, where it performed significantly better. The television group outperformed the only non-television group of very

similar composition in one additional part of the final: the translation from English to German.

The results of this study have prompted us to expand our experiment and to verify our findings with considerably larger groups of students. We are particularly interested in programming our television course more effectively and in finding new ways to stimulate and insure the active participation of our students during the viewing periods.

The experiment would not have been possible without the interest, the ingenuity, and the cooperation of our televison staff.

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